In addition, Claim 40 has been rewritten in independent form to correct the objection of the Examiner. Please amend all of the remaining claims as follows:

23. (Amended) A process for treating industrial waste water which is highly loaded with ammonium at a level of at least about 200 mg/liter comprising treating the waste water with nitrifying microorganisms in the presence of suspended silicate carrier substance, wherein the silicate carrier substance has a specific surface area greater than about 20 m^2/g, wherein the silicate carrier substance has a swelling volume of about 5 to about 80 ml/2g, wherein the carrier substance acts as a carrier for the nitrifying microorganisms and wherein the silicate carrier substance with the nitrifying microorganisms is suspended in the waste water.

24. (Amended) The process of Claim 23, wherein the specific surface area of the carrier substance is greater than about 50 m^2/g.

25. (Amended) The process of Claim 23, wherein at least 95 percent of the silicate carrier substance has a particle size less than about 150 μm.

26. (Amended) The process of Claim 23, wherein the industrial waste water has an ammonium / nitrogen content of about 200 to 2000 mg/liter.

27. (Amended) The process of Claim 23, wherein the industrial waste water has an ammonium / nitrogen content of about 400 to 1600 mg/liter.

28. (Amended) The process of Claim 23, wherein a source of the waste water is selected from the group consisting of flow from a sludge treatment plant, supernatant water from sludge digestion and waste dump leakage water.

29. (Amended) The process of Claim 23, further comprising impregnating the silicate carrier substance with the nitrifying microorganisms prior to its addition to the waste water.

30. (Amended) The process according to Claim 23, wherein the denitrifying process is carried out under anoxic conditions.

31. (Amended) The process of Claim 23, wherein the silicate carrier substance comprises about 5 to 50 grams per liter of the waste water.

32. (Amended) The process according to Claim 23, wherein the silicate carrier substance has a surface pH of about 6 to 9.

33. (Amended) The process of Claim 23, wherein the silicate carrier substance comprises a clay mineral.

34. (Amended) The process of Claim 23, wherein the clay mineral comprises a smectite clay.

35. (Amended) The process of Claim 23, wherein during treatment with the nitrifying microorganisms, the pH value of the

waste water is adjusted to about 6.5 to about 8.5 by the addition of an alkali material.

36. (Amended) The process of Claim 23, wherein the amount of the silicate carrier substance added to the waste water is from about 6 to about 15 kg per kg of nitrogen in the waste water.

37. (Amended) The process of Claim 23, wherein the nitrifying process is carried out under aerobic conditions.

38. (Amended) The process Claim 23 further comprising nitrifying the waste water by introducing an oxygen-containing gas to the waste water.

39. (Amended) The process of Claim 38, wherein the oxygen content of the waste water is adjusted to be at least about 2 mg per liter of waste water.

40. (Amended) A process for treating industrial waste water which is highly loaded with ammonium comprising treating the waste water with nitrifying microorganisms which are in the presence of suspended carbon-containing material, wherein the carbon-containing material is selected from the group consisting of activated charcoal, lignite, coke, coke dust, anthracite, graphite and carbon black wherein the carbon-containing material acts as a carrier for the denitrifying microorganisms and wherein the carbon containing material with the denitrifying microorganisms is suspended in the waste water, and

denitrifying the nitrified waste water with denitrifying organisms.

41. (Amended) The process of Claim 40, wherein the surface pH of the carbon-containing material is adjusted to a pH from about 6.5 to about 8.

42. (Amended) The process of Claim 23, further comprising adjusting the nitrogen content of the waste water to a volumetric loading of about 0.5 to about 2.5 kg of ammonium nitrogen per m^3 waste water.

43. (Amended) The process of Claim 23, further comprising reducing the Chemical Oxygen Demand level from at least about 300 to about 100 mg/liter before the nitrification process.

44. (Amended) The process of Claim 23, wherein the NH_4 / nitrogen content is limited to a maximum value of about 1200 mg/liter before the nitrification process.

45. (Amended) Process of Claim 23, wherein the nitrifying microorganisms comprise ammonium-oxidizing bacteria.

46. (Amended) Process of Claim 29, wherein a source for the denitrifying microorganisms comprises a carbon-based product.

47. (Amended) The process of Claim 33, wherein the clay mineral comprises a bentonite clay.

Please add new Claims:

48. The process according to Claim 23 wherein the silicate carrier substance has a cation exchange capacity (CEC) of about 40 to 100 mVal/100 g.

49. The process according to Claim 23 wherein the silicate carrier substance has a cation exchange capacity (CEC) of about 50 to 80 mVal/100 g.

50. The process of Claim 23 wherein the swelling volume of the silicate carrier substance is from about 10 to about 20 ml/2g.

Basis for Amendment

The applicant has amended the number of each of the claims of the application pursuant to the suggestion of the Examiner.

The applicant has also made certain amendments to line 7 of Claim 23 pursuant to the suggestion of the Examiner in paragraphs 3 and 4.

The applicant has also deleted the phrase "which are" from the 3rd line of Claim 23 as it was confusing. By deleting this phrase it is clear that the nitrifying microorganisms are in the presence of not only the suspended silicate carrier substance, but more importantly, the carrier substance is in the presence of the nitrifying microorganisms. Further, the applicant has deleted the last three lines of Claim 23 as they do not add to the invention and unnecessarily narrow the claims of the application.

The applicant has also amended Claim 40 to make it an independent claim. In this alternative process a carbon-containing material is substituted for the silicate carrier substance of Claim 23. Thus, this process is an alternative process to that disclosed in Claim 23. However, there is a common inventive principle involved wherein a particulate carrier substance which may be easily suspended and held in suspension during nitrification of the waste water provides a good carrier substance for nitrifying microorganisms which are also present in the waste water. In one alternative embodiment as shown in Claim 23, the carrier material is a silicate carrier substance. In an alternative embodiment as shown in Claim 40, the carrier material is a carbon-containing material.

Claim 41 has been amended to clarify that the pH that is claimed in that claim is of the carbon-containing material and not the waste water.

No new matter is introduced by any of these amendments. The applicant believes that all of these amendments are properly supported by the specifications.